



LIMS

NEWSLETTER

Plans & Programs Staff, Office of Logistics

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LIMS Update

As this Newsletter assumes a bi-annual publishing frequency, activities within LIMS are now escalating rapidly.

Those of us within the project look back upon its beginning stages and compare them with the hesitant, sometimes faltering efforts of a youngster. With our present twenty-two hindsight we now ask the question "why didn't the project move forward more quickly and achieve substantive progress more rapidly?". The answer: we did not fully appreciate the size of the tiger that we had by the tail.

As we probed deeper beneath LIMS' surface we uncovered more and more of its magnitude, scope and far-reaching implications. To continue in this metaphorical vein, our initial efforts to identify goals, objectives, issues and required resources is likened to viewing the tip of the iceberg. Now that the iceberg's base (or the tiger's

size) is seen in a more concrete form the indecisive child has become a rapidly maturing young adult; we are progressing smartly!

Specifically, the project's sheer substance has demanded and received considerable resource support from the Offices of Logistics, Finance, and Data Processing. In particular, ODP has recently provided a substantial level of support that is beyond the vision of those involved in LIMS' early days. Two years ago at this time there were people involved on a full- or part-time basis: from OL, from ODP and from OF. Today individuals are engaged in LIMS' development on, primarily, a full-time schedule: from OL, from ODP, from OF, and contractor personnel—plus additional support as needed from OL, ODP, OF and OIG. The roll call will further increase after the first of

the new year when the second (and major) contractor is aboard. We are developing a housing shortage!

This enriched pool of talented resources has stimulated and accelerated project growth and development. Witness the accomplishments of FY-82: the design, testing and implementation of an Agency Standard Automated Property System (ASAPS) that has already identified more than a dozen component applications; the evaluation of proposals and subsequent award of a quality assurance contract; the issue of a development contract RFP; the updating and publication of OL and OF system objectives and functional requirements; the inclusion of an automated vendor payment function (endorsed and supported by OF); the implementation of new techniques and methodologies, together with the Office of Data Processing, that formalize project

Recent Accomplishments

organization and direction, assuring its ultimate success; ✓planning for and accommodating the inclusion of presently autonomous OL data bases; resolving myriad issues, questions and concerns; ✓developing and coordinating specific details that will lead to LIMS' initial implementation in FY-85.

The other side of the resource coin—budget—has, at this writing, less clarity and resolved definition. Here again LIMS' emerging maturity has produced the realization that it will cost more to implement than was initially estimated. Nonetheless, with the Director of Logistics' continuing encouragement and support, various means, ways and alternatives are being developed that will assure an operational LIMS, vis-a-vis timely and adequate funding.

As announced in MBO reporting and five-year strategic planning, the prospects for an operational LIMS program remain favorable. These prospects do, in fact, appear to improve on virtually a daily basis. Project acceptance has become widespread; the LIMS way of doing business is but a matter of time.

Setting a Precedent?

Does the expression "at the cutting edge of technology" apply to LIMS? It may be a bit of overstatement—

but we like to think that the use of four relatively new ADP applications development techniques provides a degree of project uniqueness, to say the least. Independently, they have been used elsewhere in the data processing community; on a simultaneous use basis, they may well represent a first in the annals of Agency ADP new product application. In the simplest of terms these four new methodologies are known as Structured Analysis, Data Dictionary, Quality Assurance, and ODP Applications Documentation Standards.

The September 1981 issue of the LIMS Newsletter contained articles on both Structured Analysis and the use of a Data Dictionary. Since the introduction and employment of these tools, their effectiveness and advantages have become obvious to the extent that other ODP projects are beginning to employ them. We in LIMS are still exploiting their potentials and two project contracts will contain information documented through the use of their technique, configuration, and capabilities characteristics.

The third method, Quality Assurance is more in the nature of an insurance policy to help ensure that LIMS, in its final operational form, will work as planned. In essence, formal Quality Assurance is a

structure and organization that provides a planned and systematic means of building adequate confidence that computer systems are developed, maintained and will perform in compliance with the customer's requirements. Upon ODP's completion of defining and documenting the project's detailed requirements a development/maintenance contractor will undertake the design, coding, testing, training, documenting, and implementing tasks. The same contractor will maintain and enhance the system after its IOC (initial operating capability) has commenced. The entire sequence of the development contractor's effort will be evaluated and reported upon by an independent body identified as the Quality Assurance Contractor.

In recognizing the ever-increasing need for a formally structured quality assurance discipline within new ADP applications development, ODP has, in a recent reorganization, established a Quality Assurance Division (QAD). The presence of this component parallels industry's creation of a similar specialty. In terms of importance, for example, it has been found that the vital function of early error detection, as discovered by a quality assurance group, can reduce the last minute cost of an error 'fix' by as much as 125 times. LIMS has its own

independent Quality Assurance Group (from QAD/ODP) that, among other duties, prepared the Quality Assurance (QA) RFP, provided the lead in selecting a QA contractor, acts as COTR for the QA contract, and exercises internal control and maintenance over LIMS' baselined documentation and software. The QA contractor, in turn, is charged with a lengthy list of specific tasks that, when performed in their totality, will assure that the development contractor delivers an accurate and functional operational system that effectively implements OL and OF LIMS objectives and requirements.

The fourth method, ODP Documentation Standards, is manifested in a May 1982 publication entitled *Applications Documentation Standards Manual*. Its purpose is quoted directly from the publication's introduction:

"The Applications Documentation Standards Manual establishes standards for Applications in the Office of Data Processing (ODP) for all documentation produced during the system life cycle. Sufficient documentation will be prepared at each stage of the system life cycle to ensure proper planning, design, development, and implementation of automated data systems as well as to provide for cost-effective system operation and maintenance.

Adherence to the standards presented in this manual is required for all new Applications projects. Each Statement of

Work (SOW) in all Requests for Proposal (RFP) shall contain the requirement for adherence to these standards by contractor personnel."

The aforementioned system life cycle is defined as "the time span that begins when an idea to create a system is conceived and ends when the system is replaced or is no longer used. The system life cycle is comprised of the following five phases: System Initiation, System Definition, System Design, System Implementation and Integration, System Operations and Support." During the course of each phase formally structured and formatted documents are produced by system participants and developers. Through the medium of a formal review and audit, reports are prepared by the QA contractor. The contents of each phase's documents are subsequently approved and baselined. An organization known as the LIMS Configuration Control Board (CCB) exercises this control and approves/disapproves subsequent requests for changes within any specified baselined document. The Applications Documentation Standards Manual calls for approximately twenty-eight formal documents to be produced throughout the system life cycle. In addition, there are numerous other forms of documentation and reports required of QA and development contractors. Certain of these documents are continually updated and become

more detailed in content as the life cycle phases are sequenced (again under the purview of the CCB).

What does this complex and tedious sounding principle do for LIMS, you ask? Simply put, it builds and provides a complete and comprehensive library of necessary information about the project, in its cradle-to-grave sequence. Moreover, this library's contents are in a standard, universally accepted format that will permit users, operators and developers to readily identify the what and how of every aspect and detail in LIMS' life cycle. No system can be successfully managed without its essential documentation, particularly within circumstances of operational system changes and enhancements. It is forecast that LIMS will be one of the most thoroughly documented ADP systems ever assembled.

In summary, the LIMS project is a pioneering effort in several ways: in employing new applications development techniques; in providing valuable knowledge and experience to its developers; in furnishing a new and effective tool for the manner in which OL and OF will conduct future business.

ASAPS

Following extensive testing by OL and Audit Staff representatives, the Agency

Standard Automated Property System (ASAPS) has been approved by the Director of Logistics for deployment to Agency components. The system, designed to replace existing labor- and paper-intensive manual processes and establish a uniform approach to property management at the component level, provides for the expeditious exploitation of data processing techniques in required Logistics property accounting activities. Over the past few months the system has been successfully installed in four component operational environments; planning is underway to install the system in an additional nine components, representing all Agency directorates. As the ASAPS system has completed its development phase and now becomes an approved operational system, the baton of system responsibility is being passed from the

OL Plans and Programs Staff to the OL Supply Division, Data Control Branch. The enthusiastic responses from initial users attest to the functionality of the system. Agency components interested in automating their manual processes should contact [redacted] C/DCB/SD/OL [redacted] for information relative to training for and installing the new ASAPS system.

LIMS Personalities

[redacted] is the subject of personality introductions this time around. Originally assigned to P & PS in late '80, [redacted] took up residency with the LIMS Task Force (now known as the LIMS System Development Group) in February of '81. While relatively a newcomer to internal OL activities [redacted] has, nonetheless, impressive background experience.

Married to an OC careerist, she has seven overseas tours totalling sixteen years to her credit. She has ten years of experience in teaching at various DOD installations—and currently teaches the Logistics portion of the Field Administration course. Beyond achieving a BS in Political Science [redacted] continues in her studies of management and computer sciences. [redacted] took time out along the way to raise three children.

In terms of her current LIMS role, she is engaged in developing detailed requirements for the Inventory Module—and participates in the progress being made in defining the Catalog and Distribution Modules. [redacted] is an OL careerist whose talents, energies and contribution to LIMS serve to identify bright prospects for her future as a logistician.

Murphysisms

If everything seems to be coming your way you're probably in the wrong lane.

Any sufficiently promising technology must be regulated or it will succeed.

There is no crisis to which academics will not respond with a seminar.

Where you stand on an issue depends upon where you sit.